AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A die for extruding flowable material therethrough in a longitudinal direction, said die having a die inlet for admitting flowable material and a die outlet for expelling flowable material, said die inlet and die outlet being oppositely disposed on a longitudinal axis, said die outlet having a cross sectional area defining a die outlet plane having a major axis and a minor axis orthogonal thereto, said major axis being greater than or equal to minor axis, said die having a cavity connecting said die inlet and said die outlet, said cavity having a plurality of cross sections perpendicular to said longitudinal axis, said cavity having a static mixer therein, said static mixer having openings therethrough oriented substantially at an angle relative to said longitudinal direction, said static mixer having a static mixer outlet defining a static mixer outlet plane filling said cavity at a cross section, said static mixer causing flowable material to flow in a first direction having a component parallel to said major axis of said die outlet plane and later in a second direction having a component parallel to said minor axis of said die outlet plane as said flowable material is within said cavity, wherein said static mixer outlet plane and said die outlet plane are coincident.

2. (Previously presented) A die for extruding flowable material therethrough in a longitudinal direction, said die having a die inlet for admitting flowable material and a die outlet for expelling flowable material, said die inlet and die outlet being oppositely disposed on a longitudinal axis, said die outlet having a cross sectional area defining a die outlet plane having a major axis and a minor axis orthogonal thereto, said major axis being greater than or equal to minor axis, said die having a cavity connecting said die inlet and said die outlet, said cavity having a plurality of cross sections perpendicular to said longitudinal axis, said cavity having a plurality of static mixers therein, said plurality of static mixers being disposed in series between said die inlet and said die outlet whereby at least a portion of said flowable material passes through two or more of said static mixers of said plurality, one said static mixer comprising a stage of bars imparting flow to said flowable material in a first direction relative to said longitudinal direction, and a second static mixer of said plurality of static mixers comprising bars imparting flow to said flowable material in a second direction relative to said

PAGE 3/7 * RCVD AT 12/19/2003 8:35:59 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:5136346108 * DURATION (mm-ss):02-52

longitudinal axis, said first direction and said second direction defining an included angle therebetween of at least 45 degrees, at least one said static mixer filling said cavity at a cross section imparting bilateral flow to flowable material as said flowable material is within said cavity and passing through said static mixer.

3. (Original) A die according to claim 1 wherein said static mixer has a static mixer inlet defining a static mixer inlet plane and a static mixer outlet defining a static mixer outlet plane, said static mixer inlet plane and said static mixer outlet plane each being flat and mutually parallel.

4. (Original) A die according to claim 3 wherein said die outlet plane and said static mixer outlet plane are mutually parallel.

5. (Canceled)

6. (Original) A die according to claim 1 having a cross direction orthogonal to said longitudinal direction, wherein said static mixer has a first surface area to void volume ratio coincident said longitudinal axis and a second surface area to void volume ratio at a position spaced from said longitudinal axis in the cross direction, said first ratio being different than said second ratio.

7. (Original) A die according to claim 1 further comprising a plurality of auxiliary inlets for admitting material or admitting energy to said cavity of said die.

8. (Original) A die according to claim 2 further comprising a plurality of auxiliary inlets for admitting material or admitting energy to said cavity of said die.

9. (Original) A die according to claim 2 wherein said first static mixer has a first length and said second static mixer has a second length, said first length and said second length being taken in said longitudinal direction, said first length being greater than said second length.

PAGE 4/7 * RCVD AT 12/19/2003 8:35:59 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:5136346108 * DURATION (mm-ss):02-52

10. (Original) A die according to claim 9 having a first static mixer with a first surface area to void volume ratio and a second static mixer with a second surface area to void volume ratio said first ratio being greater than said second ratio.

11. (Original) A die according to claim 2 further comprising a plurality of auxiliary inlets for admitting material, energy or both to said cavity of said die, said auxiliary inlets being intermediate said first static mixer and said second static mixer.

12. (Original) A die according to claim 11 further comprising a plurality of inlet tubes, said inlet tubes penetrating said die cavity for admitting material or energy to said die cavity.

13. (Original) A die according to claim 12 wherein a plurality of inlet tubes are disposed in at least one said static mixer.

14. (Original) A die according to claim 2 wherein at least one said static mixer comprises a plurality of hollow bars, said bars admitting material or energy to said cavity of said die.

15. (Original) A die according to claim 2 wherein one said static mixer is substantially parallel to said longitudinal direction.

16. (Original) A die according to claim 15 having a longitudinal centerline, and comprising at least a first static mixer disposed on a first side of said longitudinal centerline and at least a second static mixer disposed on a second side of said longitudinal centerline, said first static mixer and said second static mixer not intercepting said longitudinal centerline.

17. (Original) A die according to claim 15 wherein said static mixer substantially parallel to said longitudinal direction intercepts a static mixer substantially perpendicular to said longitudinal direction.

18. (Previously presented) A die according to claim 17 having a cross direction perpendicular to said longitudinal direction and a width taken in said cross direction, wherein said static mixer substantially perpendicular to said longitudinal direction extends the width of said die.

PAGE 5/7 * RCVD AT 12/19/2003 8:35:59 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:5136346108 * DURATION (mm-ss):02-52

19. (Currently amended) A die for extruding flowable material therethrough in a longitudinal direction, said die having a die inlet for admitting flowable material and a die outlet for expelling flowable material, said die inlet and die outlet being oppositely disposed on a longitudinal axis, said die outlet having a cross sectional area defining a die outlet plane having a major axis and a minor axis orthogonal thereto, said major axis being greater than or equal to minor axis, said die having a cavity connecting said die inlet and said die outlet, said cavity having a static mixer therein, said static mixer having a plurality of bars for directing the flow of material in said die cavity, at least one said bars for admitting energy through a window substantially transparent to the transmission of energy therethrough to said cavity of said die.

20. (Canceled)

PAGE 6/7 * RCVD AT 12/19/2003 8:35:59 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:5136346108 * DURATION (mm-ss):02-52